Examinations:

1. Abdomen - Spleen, Liver - DDx.
2. GPE.
3. Musculoskeletal - female ? Cushingoid face
4. Respiratory.
5. Motor - lower limbs.
6. MS Murmur - Rx, MOM in (L) lat.
7. Chest → (L) sided P. Effusion - Causes.
8. Spastic paraplegia - ↑ Tone, power 0/5, ↑ Reflexes, Plantars ↑↑).
9. Back exam. → crepts + ↓ Movement on (R), dull note. ↑ VR. ↓ sounds on (R) mid chest.

Qs:

10. BP - Pulse pressure.
    Resistant HTN.
    Target Organ Damage?
11. CVS, relevant. MR, TR, AR.
12. GPE - Multinodular Goiter.
13. Pulses.
14. AS, AR.

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(15) Facial Palsy - LMN.
↳ Taste sensations - Chorda tympani.

UMN → Cerebral cortex.
Which stroke involve LMN - Pontine.

(16) Ant. Chest. (L) lower lobe Consolidation.
Bronchial sounds + Crackles.

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Instruments:

1. Fundoscope. → Uses,
   → Stages of Diabetes, HTN Retinopathy
   → Perform fundoscopy on pt.
2. CVP line – Uses, SE.
3. Peak exp. flow.
4. Insulin Syringe. (100 units).

Uses – Insulin, Heparin, Erythropoietin, Antagonists, Intralesional Steroids

How Insulin given & it? Sites?

When to Change: After 3-4 times?

5. Peak flow Meter.
6. ETT. CI, Comp, Tracheomalacia?
7. Pleural Biopsy Needle, LP needle, Liver Bx
8. NIV.
9. Ventilator Mask, Normal values.
10. Blood Bag – pathogens to be transfered? Anticoagulant? CDPA (Citrate Dextrose phosphate).

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(11) (Sangstaken Tube) : Parts :
- Stomach End
- Esophageal End.
- Suction port for stomach.
- Suction for Eso.
- Stomach Ballon.
- Esop. Balloon

↓

→ Used for tamponade in bleeding Eso. varices due to portal HTN.

⇒ Bone Marrow Needle : (ē Hook in b/w)

⇒ Liver Biopsy Needle : Straight ē Bifid needle.)

⇒ Pleural biopsy Needle (Abrahams) : (Always have lock)

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Radiology:

(9) COPD CXR.

(10) X-Ray → Bird Beak - Achalasia.
Causes: Loss of Mye. Plexus
Lower Eso. Ca.

(11) Cough & Yellow Sputum CXR → Chronic Bronchitis.

(12) CT - Hyperdense shadow, in b/w fissures
Sudden Onset headache.
Vomiting, LOC.
Δ: SAH.
Causes: HTN, Rupture of Berry Aneurysm, AVM.

(13) MRI
Large Circumscribe lesion in parieto occipital area -
(3) causes - (Hyperintense: Mass Abscess)

(14) Picture - Bluish color fingers & Distal Ulcerative Lesion. Smoker.

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(15) Paget x-Ray.
(16) Tinea Versicolor Picture
(17) Peripheral film - Microcytosis, Target cells, Pencil Cells, Schistocytes.
(18) Abd. CT - Hepatosplenomegaly.
(19) ABGs - AG, causes.
(20) Barium Swallow.
(21) Miliary TB CXR.
(22) CXR - Consolidation + B/L infiltrates + Cavitatory lesion - TB?
(23) Down's picture.
(24) Fundus picture
Optic Atrophy VS HTN Retinopathy.
(25) CRAO/CRAV.
(26) Ramsay hunt
(27) Prayer sign
(28) SVC obstruction.

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Random Recalls:

(1)

→ HCV → Portal HTN. Do we give Interferons – No

CI of Interferons: Decompensated.
Ascites
Enceph.
HCC.

Rx – Liver Transplant.

Complication of Portal HTN:
- Encephalopathy.
- Varices – GI Bleed.
- Ascites
- SBP.
- Hepatorenal
- Hepatopulm.

MELD's Score → HD, Cre, Na, INR, Bilirubin.

King's College Criteria for Transplant?

Meld → Model for End Stage Liver disease.
↳ Dialysis, Creatinine, Bilirubin, INR, Na → Predicts 3 Months Mortality.

Child Pugh: Albumin, Bilirubin, PT, Ascites, Encephalopathy

5-6 → A, B, C → 10–15.
7-9

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(2) RA painkillers → NSAIDS / Steroids > Symptomatic

Management

→ Symptomatic
- pain relief
- Physio
- Rehab.

Specific
- DMARDs
  ↳ MTx
  ↳ Sulpna
  ↳ Leflun.
  ↳ HCQ.

Renal Involvement in RA.

- NASAIDS → Interstitial Nephritis
- penicillamine → Mem. Nephropathy
- Sec. Amyloidosis.

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(3) Diarrhea, Vomiting ē BP 80/60.
Deep, Rapid Resp. ē NO UOP.
Δ: ARF - Pre renal.
Rx: Hydration ē JVP.
Basal Crackles
UOP
CVP Measurement.
If no Imp → HDx.
Complications: M. Acidosis
Hyperkalemia
Uremic pericarditis
(Clinically → Friction Rub).
Uremic Encephalop.
Urine D/R in ATN → Epithelial Casts
(Muddy Brown/
Granular)
Dehydration → Hyaline Casts (Pre-Renal)
↳ BUN: Cre > 20:1

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(4) Patient on Antiepileptics. developed weakness + Difficulty getting out of bed - AM.

Labs: ALP: 500.
Ca: 7.5
Alb: 4.0

D: Osteomalacia.

Relevant Investigations - (3)

Manage: ↓ Vit D_3
↓ Cal.
↓ PO4
↑ ALP

→ Vit D Supplements (1α Hydroxy vit D3 1-2μg)
Calcitriol 250ng - 1μg daily)

Anticonvulsants → Induction of microsomal enzyme system in liver leading to disturbance in the metabolism of Vit D.

→ Give VitD - 2000 - 4000 IU/day.
Ca ↑ - 600 - 1000mg/day.

- Check vit D levels before starting anti-con then 6-12 month.

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(5) 4 Months of 1st line ATT.
Sputum c/s → Resistance to Iso, Rifampicin.

Δ: MDR TB.
Drugs & dose now?
& How long.

→ Sputum c/s: 3-6 Months

↳ Short Duration → 9-12 M.
Long Durations → 18-20 M

- Pyrizinamide, Ethambutol
- Fluoroquinolones.
- Inj. Kanamycin / Capreomycin
- Ethionimide.

Intensive phase: 5-7 months.
Cont. phase 15-24 Months.

Group I: I-R-S-E-P.
II - Aminoglycosides - Amikacin, Kanar.
III - fluoroquinolones.
IV Ethionimide, PAS.
V - Bedaquiline

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* **RA:**

X-Ray → Symmetrical Narrowing/ Reduction of all joint spaces. Periarticular Osteopenia in MCP & wrist joints. Disorganisation of all PIP of both hands. Bone Erosions. ↳ deformity of Thumb. Ulnar Deviation of Both hands.

Bad prognosis: Female Gender. Higher baseline Disability. Involvement of MTP joints. Positive RA factor. >3 Months Disease Duration.

Criteria of Dsis: Morning stiffness >1hr. (≥4) Arthritis of ≥3 joints + Symmetri. Hand joints involvement. Nodules, RA factor, Duration ≥6 weeks, Radiological changes

Labs: CBC, ESR, CRP, ANA, RA factor, Anti CCP.

Rx: NSAIDs, Steroids - Symp. DMARDs - ↓ progression HCQ - MTx - Sulfasalazine, Biologics.

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* **POTTS DISEASE**:

- Reduction of joint spaces b/w.. Partial Reduction / Destruction of vertebral body. Paravertebral shadow on both sides. - Marginal Sclerosis.

Inv: CBC, ESR,
CxR, Tuberculin test
MRI Thoracic Spine
U/s guided FNAC.

DDx: -Malignancy → effects vertebral bodies
- Trauma. → No Discitis.
- Mets
- Multiple Myeloma.

TB → Discitis

Spinal Cord Compression:

Lumbar area → Cauda Equina.

- Pain, weakness legs.
- Numbness in back, Inner thighs.
- Loss of bowel, bladder control.
- Fine motor skills affects.

Causes, Arthritis, Malignancy, Trauma, Ruptured disc

Rx: NSAIDs, Steroids, Radiations, Surgery.

* **B/L Hilar LN:**

DDx: Sarcoidosis,
Lymphoma
TB.
Anticonvulsants → Phenytoin, Diphenyl Hydantoin

Findings:
- Other Lymph nodes
- Hepatomegaly, Splenomegaly.
- Erthema Nodosum.
- Parotid Enlargements.

INV: CBC, ESR,
Tuberculin test.
ACE levels → Sarcoidosis.
BAL.
Transbronchial Bx ≤ (Most Accurate).

Staging: CXR
I - BHL
II - BHL + Infiltrates.
III - Infiltrates.
IV - Fibrosis

Rx of Sarcoidosis → Steroids.

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"Ring Enhancing lesions in CT Brain"

How to Define:- Multiaxial CT – Cystic lesion – hypodense – surrounding edema? in ___ region.

DDx: Tuberculomas → TB, Mets, Lymphoma, Toxoplasmosis
Brain abscess.
Glioblastoma Multiforme.
Mets.
contusions.
Demyelinating disease.
Radiation Necrosis.

Inv: Bx of lesion.

Rx:
Acc. to the cause.
Brain TB → same except Ethambutol. (No CSF penetration)
↳ floroquinolone (Moxi / Levo) used in place +
Steroids for Edema.
→ Excellent CSF penetration.

④ 1st line:
INH.
Rifampi
PZN
> 2 Months

No CSF penetration ← Strepto / Flora:
INH & Rif → 7-10 Months.

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"Cavities in CXR in HIV patient":

→ Cryptococcosis
→ Coccidiodomycosis
→ Histoplasmosis.
→ Invasive Pulm. Aspergillosis.
→ Pulm. TB.
→ Pneumocystis jirovecii Pneumonia (PCP/PJP).
- AIDS < 200 counts of CD4.
- Fever, Cough, Dyspnea.
CXR → Infiltrates.
↑ A-a gradient in ABGs, LDH.
Acurate test: BAL.

Rx:
- TMP-SMX (Cotrimazole).
Severe Infection: pO2 < 70.
A-a gradient > 35.
↓
Steroids + TMP-SMX or.
" + Clinda + Primaquine

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STROKE (CT/MRI)

→ Sudden onset Neurological Deficits > 24hrs.
& no cause apparent other than vascular

Ischemic:
- → ACA – Contralateral weakness. Confusion & Behavioral Disturbances
- → MCA – Contralateral Hemiplegia
  - Contralateral Hemi-sensory loss of face and arm.
  - (L) Dominant → Broca's, Wernicke's
- → PCA – Visual Agnosia. Contralateral Homo. Hemianopia.

Inv: Plain CT, Diffuse weighted MRI.

Rx: I/v tPA → 4.5hrs. (Most effective 3hrs)
> 4.5hrs → Aspirin only.
Carotid Revasc.
Secondary Prevention = Diabetes. Lipid profile BP Smoking.

Bleed: – IDH – SAH.
Control BP, Surgical Decompression.
SAH: LP → NOC.
(↳ CCBs (Nimodipine).
↳ Surgical clipping.
] Seizures Prophylaxis.

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CXR APE:

→ X-Ray Chest PA view showing dense homogenous opacity ē Curvilinear Upper border in both Lower zones obliterating both Costophrenic angles. (B/L pleural effusion)

CXR: Alveolar Edema (batwing)
Kerley Blines
Cardiomegaly
Dilated upper lobe vessel
Pleural effusion.

DDx: - CCF.
- Liver Cirrhosis
- Nephrotic.
- B/L extensive TB.
- Collagen Disease - SLE, RA.

Inv: CBC, UCEs, LFTs, Cardiac Enzymes, BNP, CXR, ECG, Echo.

Rx: Life Style.

(HF) ACEIs & ARBs
Beta Blockers.
Spironolactone.
Hydralazine & Nitrates.
Implantable Defibrillator. (Dopa).

(APE): LMNOP. - Position. Then Inotropes or IABP.
Loop Diuretics / Morphine / Nitrates oxygen.

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* CXR Asthma:

Findings: Hyperinflated lungs.
Bronchial wall thickening.
Flat diaph, Tubular heart ↑ AP diameter

Inv: CBC
Lung Function Tests (FEV1 : FVC ratio). ↓ Ratio.

Rx: Step I: Inhaled SABA (PN) Salbutamol
According to new guidelines.
Add Low dose ICS in Step I.
Step II: SABA + ICS (low dose). or LRTA.
Step III: Low dose ICS, LABA, Medium dose ICS or low dose ICS + LRTA.
IV. Medium dose ICS + LABA. or LRTA.
V: High dose ICS + LABA + LRTA + Add on SR Theophylline.

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* Achlasia:

Barium Swallow shows: ① Dilatation of esophagus c smooth tapering of its lower end.
② Absence of fundal gas.
Δ: Adulasia.

Diagnosis on ① Barium swallow.
② Esophageal Manometry.

Causes: Idiopathic
Chagas Disease.
Diabetic Neuropathy.
Amyloidosis
Sarcoidosis.

Complications: Sqm Cell CA (5%).
Candida Esophagitis.
Diverticulitis.
Aspiration Pneumonia
Airway Obstruction.

Treatment: Pharma: CCBs, Nitrates, Botulinum toxin in LES.
Non-pharma: Pneumatic Dilation.
Heller's Myotomy.

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* SAH:

CT Head → High attenuation (white areas) ∴ Obliteration of ventricles.

Causes: Saccular (Berry) Aneurysm – M. Common.
→ Causes: - ADPKD. - Ehlers. - Marfan.
Vascular Malformations.
Hematologic disturbances
Tumors.
Traumatic Hematoma.

Features: Abrupt, Severe Headache.
LOC → 25-50% cases.
Meningeal Irritation Signs.

Δ: Non Contrast CT – Best initial.
LP – IOC – CT Neg or if present. > 12hrs.
↳ ↑ pressure, Xanthochromia, ↑ RBCs, protein

Rx: CCBs (Nimodipine) – prevent Vasospasm
Seizure Prophylaxis – Phenytoin.
Control BP.
Surgical Clipping.
– Coiling into Aneurysm.

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TINEA VERSICOLOR PICTURE:

Benign superficial skin condition - multiple small hypopigment (white or pink) macules caused by fungus - Malassezia furfur.
Common in warm temp. More severe in Immunocompromised.
DDs - Vitiligo, other fungal Inf.
Sites: Trunk, upper arm, neck, Groin.
Confirm: Skin Scraping using KOH.

Rx: Topical	Oral.
- Selenium Sulfide Lotion. (Neck to waist: 5-15min for 7 days)	- Ketaconazole. 200mg daily (1 week).
- Ketaconazole Shampoo	- Fluconazole. 300mg 2 doses (14 days apart)
- Imidazole Cream.	- Itraconazole.

→ Recurrence is quite common. Maintenance Rx is necessary.

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* Miliary TB CXR:

X-Ray chest shows Multiple Miliary mottling involving all zones of both lung fields.

DDs:
- Miliary TB.
- Sarcoidosis.
- Pulm. Eosinophilia
- Histoplasmosis.
- Pneumoconiosis.

Inv:
- CBC ē ESR ē Circulating Eosinophil count.
- Sputum for AFB.
- Bronchoscopy ē BAL.

Presentation:
- Fever (Low grade) (Evening rise).
- Night sweats.
- Weight loss.
- Cough ē Hemoptysis.

Treatment: Same for Pulm. TB.

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* RAMSAY HUNT : (Herpes Zoster Oticus).

Neurological Disorder characterized by paralysis of the facial nerve (facial palsy) & a rash effecting ear or mouth.
Ear abnormalities. such as tinnitus or Hearing loss may be present.

Symptoms:

Triad: Ipsilateral facial palsy. Erosive vesicular rash on pinna and auricle

- Painful red rash c̄ fluid filled blisters in & around one ear. (shingles).
- Facial weakness on same side as effected ear.

Cause: Varicella Zoster Virus.

Rx:
- Counsel & Reassure.
- Prednisolone. (5mg at dose 60 mg/24 hrs in divided for 10-14 days)
- Acyclovir.
- Artificial Tears (Avoid Exposure Keratitis)
- Physiotherapy. Of facial Muscles (Inflating balloons / Blowing Bubbles)
- Multivitamins
- F/U

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* PRAYER SIGN:

- Inability to completely close gaps b/w the opposed palms & fingers on pressing them together.
Its a feature of DIABETIC CHEIROARTHROPATHY. Also known as Diabetic Stiff hand Syndrome or limited joint mobility syndrome.
Prevalence ↑ c Duration of Diabetes.

Mechanism:
Increased Glycosylation of collagen in skin & periarticular tissue, increased collagen Degradation, Microangiopathy, neuropathy.

Rx: - Strict Glycemic Control.
- Hand therapy Programme.

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* SVC OBSTRUCTION:

Caused by compression of SVC.

Causes: - Bronchogenic CA.
- Anterior Mediastinal Mass.
- Lymphoma, Metastatic CA.
- SVC Thrombosis.

Symptoms:
- Dyspnea.
- Neck, facial swelling.
- Headache.
- Trunk, Arm swelling.
- Cough.
- Dysphagia.

Signs:
- Thoracic & Neck veins Distension
- Tachypnea.
- Plethora.
- Facial / Conjunctival edema
- Cerebral / Periph. Cyanosis
- Vocal cord paresis.
- Horner's Syndrome.
- Pemberton's Sign

Inv:
- Asses for hypoxia.
- CXR, CT Chest.
- Histology - CT Guided Biopsy

Rx: Treat the cause (Cancer by chemo / radiation).
- Steroids to reduce swelling
- Diuretics

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* RETINOPATHY :

* **Hypertensive** :
  - Non Malign. : Grade I : Narrowing of Arterioles, Thickening of Arterial wall, ↑ Light Reflex.
  - Maliguant : Grade II : AV nipping + Grade I.
    Grade III : I + II + Flame shaped hemorrhage + Cotton wool spots
    Grade IV : III + Papilledema.

* **DIABETIC** :

Mild Non-proliferative → MicroAneurysms only.

Moderate NPDR : Atleast one Hemorrhage or MA and/or atleast one of :
- Retinal Hemorrhage.
- Hard Exudate.
- Cotton Wool Spots.
- Venous Beading.

Severe NPDR : Any of following :
- >20 Hemorrhages in each of 4 quadrants.
- Definite Venous Beading in two or more quadrants
- Prominent IRMA in one or more quad.

PDR : One of → / Neovascularization.
/ Vitreous / preretinal Hemorrhage.
— Rubeosis Iridis.

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April 2017

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

"RADIOLOGY"

A new month, a new perspective

Bleed → Area.
Infarct → Artery Territory.

T1 CSF - Black.
T2 " - White.

CT - White - Bleed.
(Hyperdense)
Black - Infarct
(Hypo).

MRI - White - Infarct
(Hyperintense)
- Black - Bleed
(Hypointense).

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* **Respiratory:**

Anteriorly:
- R/R.
- Trachea.
- Chest expansion → (e⁻ Tape too.)
- Tenderness
- Percussion] lateral too.
- Auscultation]
- Vocal Resonance.

Posteriorly: (Sitting)
- Position ✱. (cross arms + pillow)
- Inspection
- Chest Expansion (e⁻ Tape too).
- Percussion] lateral too.
- Auscultation.]
- Vocal Resonance.

Relevant:
- Nails → Clubbing.
- Edema → Erythema Nodosum.
- Pulse → Bounding pulse (CO_2 Narosis).

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* "Abdomen" (Look at patient's face)

- Position - Single pillow → Exposure.
- Foot End - Asymmetry, Cough reflex.
- (R) side → On the level of patient - Cough.
- Inspection.
- Palpation - Superficial - (± Ors, Exp).
  Deep / Liver - Upper, lower.
  ↳ Spleen, (R) lateral.
  ↳ Kidneys - non bloated
- Percussion - Bladder
  Spleen.
- Auscultation - Bowel Sounds.
  - Bruit - Aortic, Renal.

→ Spinal Tenderness, Sacral Edema.
- Spider Nevi.

- Relevant: - Nails
  - Palm
  - Tremors.
  - Jaundice, pallor eyes.
  - Mouth - Angle Stomatis, Tongue. Aphthous Ulcers. Telangiectasia.

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CVS: (At 45°).

- Pulse – Rate, Rhythm, Volume, character,
- BP.
- JVP – At 45° ē Hepatojugular reflex.
- Precordium:

Inspection – Scars, Deformity, Pulsations.

Palpation – Apex Beat.
Parasternal Heave.
Thrill.

Auscultation → ē finger on Carotid.
↳ ē Inspiration & Expiration.
↳ (L) Axillary – (L) lateral.
MS.

Bell → S3, S4 (Mitral area).

Leaning forward – Aortic.

Relevant:

- Edema.
- Ascites.
- Pulses – ē Delay – Femoral, Radial.
  ↳ Popliteal.
  ↳ Post Tibial
  ↳ Dorsalis pedis.
- Abdomen.
- Eyes – Xanthelasma
  Corneal Arcus

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"CNS"

→ Lowerlimb Motor:

→ Exposure - Fasciculations.
→ Bulk.
→ Tone.
→ Power.
→ Reflexes → ± Eliciting.
→ Plantars.
→ Heel Shin test.
→ Gait.
→ Clonus.

Sensory:
Cotton - touch.
Pin - Touch.
Vibration.
Proprioception(toe)

→ Upperlimb Motor:

→ Exposure.
→ fasciculations.
→ Tone.
→ Reflexes.
→ Powers. < > → V → IV → III → II → I.
→ Cerebellar Signs → finger nose.
Dysdiadokinesia.

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"CRANIAL NERVES"

→ I → Olfactory : Smell.

II, Optic : Proptosis from back.
Use Ischiara chart - ē (R) eye cover.
from far then close. then (L).
Visual field.

Finger moving
ē one eye close (R) - use (L) finger
check colour. (R).
ē eye closed - color desaturation.
Make H.

III Oculomotor

IV. Trochear Use Torch → from side.
look for constriction.

VI: Abducent See abu object.
Ophthalmoscope → from distance.
then coming near.

5: Trigeminal: Close eyes → Make cotton
touch on face → Pin touch →
Ant. 2/3 of tongue.
Muscles of Mastication, mouth open.
Corneal Reflex, Jaw Jerk.

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* "FACIAL NERVE":

→ Asymmetry - Clenching.
→ Closure of eyes - forcefully.
→ Wrinkling.
→ Blow of cheeks.
→ Taste, Hearing.

→ Vestibucochlear:
  → Whispering.
  → Rinnes → Air conduction > Bone Cond.
  → Webers → Put tuning fork on forehead.

→ Oculocephalic Movement:
  Nystagmus →

→ XI → Shrugging of shoulders.

XII → Tongue, Taste, Speak.

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* || THYROID:

- Inspect from front.
- Inspect from Back.
  → Supply water → front + Back.
  → Thyroid Bruit.
  → Proptosis from above.
  → Lid lag .....

Thyroid mass moves up on swallowing.
(Supply water for it).

Relevant: -Pulse
- Tremors fine.
- Sweating.
- Voice.
- Carpal Tunnel → Acropathy. Hand myxedema
- Legs → Pretibial Myxedema.

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HAND:

→ Erthyema.
→ Synovitis
→ Deformity.
→ Dupuytren's contractures.
→ Subluxation.
→ Muscle Wasting.
→ Extensor surface of forearm for Rheumatoid Nodules.
→ Bony swelling → Nodes → PIPs.
→ Osteophytes on wrists.
→ Palm.
Any swelling, Thickening.
→ Check for crepitus.
Moves from side to side.
→ Extension.
→ Grip.
→ Fine Motor Movements.
→ Prayer's Sign → Below 100.

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* GRADING:

- Murmurs * I → Barely Audible.
II → Audible But soft.
III → Easily Audible.
IV/VI → Easy Audible & Thrill.
V → Easily Audible & Thrill/heard & Steth on chest
VI → " → steth off the chest.

- Clubbing: I → Nail Bed fluctuation.
II → Obliteration of lovibond angle
III → Parot Beaning (↑ Curvature)
IV → Hypertrophic Osteoarthropathy (HPOA)
↓
Drumstick Appearance.

- Reflexes: 0 → Absent.
1+ → Hypoactive.
2+ Normal.
3+ Hyperactive & out clonus.
4+ " & Clonus.

- * Powers: 0 → No contractions.
I → Flicker of contractions.
2 → Movement & Gravity eliminate
3 → Movement & Gravity.
4 → Movement against Gravity & Resistance.
5 → Normal.

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⇒ HTN (Station ⇐ Check BP).

→ Palpation.
→ Auscultation.
→ Orthostatic ↓.

→ Check BP in ~~sitting~~ lying down.
→ Check BP in Sitting.
→ Make the patient stand.
(Stand for around 1-3min
then check BP).

⇒ Drop in BP more than 20/10 on standing. (Syst. / Diastolic.)

⇒ Causes: Addisons, Dehydration, MS, Spinal Cord Tumors, Diabetic Neuropathy, Old Age.

"PULSES" - Radial, Brachial.
- Femoral, Carotid,
- Popliteal, Dorsalis pedis,
- Post Tibial
& Delays.

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Resistant HTN:

HTN that is poorly responsive to Rx & requires the use of multiple medications to achieve acceptable BP range. BP > 140/90 & ≥3 Antihypertensive including Diuretic.

Refractory HTN:

Uncontrolled BP despite use of ≥5 antihypertensive agents of different classes including a long-acting thiazide like Diuretic and MR (Mineralcorticoid receptor) antagonist at maximum or Maximum tolerable doses.

Pulse pressure: Diff b/w systolic & Diastolic BP.

Causes: (↑ PP) →
- AR.
- Severe IDA.
- Arteriosclerosis.
- Hyperthyroidism.

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"ECG"

① 1st° AV Block: PR interval prolong. (N: 0.12 - 0.20s) 3-5 small.
Causes: - Dig Toxicity.
- Acute MI (Inferior).
- Acute Rheum. Carditis
- Hyperkalemia.

② 2nd° AV Block: (Wenckebach) Mobitz I. [Block in higher area of AV node]
- Progressive PR lengthening followed by Drop beat.
- R-R Irregular.
Causes: Sleep (↑ vagal Tone)
Athletes.
Dig Toxicity.
Acute MI (Inferior).
MV Surg.

③ Second° AV Block: (2:1) (Mobitz II) [Block in HIS-Purkinje System]
PR constant, Wide QRS, Drop beat.
Causes: - AV surgery.
- Acute Ant. MI ?
- Degen. of conducting sys.
Rx: Asymptomatic - Observe.
Symptomatic - Atropine
PPM. ← TPM (7-10 days)
(Anterior MI).

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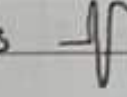
④ CHB: Atrial rate is ___.
Ventricular rate ___.
P-P constant.
R-R - Constant.
Dissociated ∈ P & QRS

Clinically: Pulse: brady, High volume.
Cannon waves in Neck.
Stokes Adams Attacks.

Rx:
= Permanent Pacemaker.

⑤ Brugada:
Coved type: STE in V_1-V_3 
- Na channelopathy.
- Manifestations: VT, VF, Sudden Death at sleep.
- Rx: - ICD
- Quinidine.

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(6) Sick Sinus Syndrome:

Tachy-Brady Syndrome.

- Symptoms:
  - Syncope
  - palpitations.
  - Chest pain.

Features: - Sinus Brady.
- SA Block.
- Paraoxysmal Afib/Atrial Tach.
- AV Block.
- Sinus Arrest.

Causes: - Degeration of sinus Node.
- Dysfunction of Sinus Node.
- HF/Afib/Infiltrative Diseases.

Rx: Symptomatic: Perm. pacemaker.
Atrial pacing: prevent episodes of Afib.

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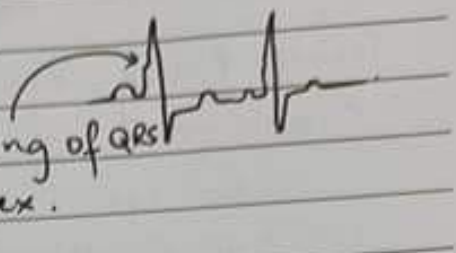
(7) **WPW Syndrome :**

- Short PR Interval.
- Delta Wave - Slurring of QRS
- Wide QRS Complex.



Characterized by excitation of ventricles due to accessary pathway from atria known as 'Bundle of Kent'.
AVRT - SVT.
Types: Sinus Rhythm, Orthrodomic Tachy, Pre-excitation Afib.

Rx: Unstable : DC Cardioversion.
Acute e Afib → procainamide
Alternates : Amiodarone
Quinidine.

Chronic & RFA → Curative.

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⑧ **Dextrocardia:**

ECG:
- Right Axis Deviation.
- Positive QRS complex in AVR.
- Global Negativity (Inversion of all Complexes).
- Absent R-wave progression.

Symptoms:
- Breathing Difficulties.
- Blue Lips, Skin.
- Fatigue.

Rx: Surgical.

⑨ **Acute Pericarditis:**

ECG: - ST ↑ in all leads ∈ Upward Concavity
- PR depression.

Features: Pleuritic, positional Chest pain.
Pericardial Friction rub.

Rx: - Aspirin (600mg - 6 times daily)
- NSAIDs (Indomethacin 25mg × 3) daily
- Steroids.

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INSTRUMENTS:

* VENTURI MASK:
- Nasal Canula: 40-60%
- Non Rebreath: 60-90%

Can provide 24-50% O_2.

Indication: - Desire to deliver exact amount of FiO_2.
- In COPD - where not to over oxygenate the patient.
- Doesn't dry mucous memb. (Homidification not required)

Contraindications: - Poor rest efforts
- Apnea.
- Severe Hypoxia.

Disadvant- Expensive
- Dry OR Bloody nose.
- Skin Irritation from Nasal Cannula or Mask.

Blue: 2-4L/min	- 24% O_2.	BWYRG
White: 4-6	- 28%	
Yellow: 8-10	- 35%	
Red: 10-12	- 40%	
Green: 12-15	- 60%	

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* ETT.

Indication.
- ↓ GCS < 8.
- CPR.
- Anesthesia preop.
- Mechanical ventilation in Bedbound.
- ↑ Risk of Aspiration.

*. CI:
- Cervical Spine Injury.
- Difficult Airway.
- Severe Airway Trauma.
- coagulopathy.

Complications:
- Intubation in esophagus.
- Laceration to Vocal cords.
- Trauma during insertion.
- Infections.
- Bleeding.
- Tracheomalacia.

Tracheomalacia → Collapse of airway when breathing. (cartilage softening).

* Alternates to ETT in Cervical Spine Injury:
→ Fibroptic Endotracheal Intubation.
→ Laryngeal Mask Airway.
→ Nasotracheal Intubation.

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* INSULIN SYRINGE: (100 units).

Uses: - Insulin Injection.
- Heparin
- Erythropoietin
- Intralesional Steroids.
- Interferons.

Sites: - Abdomen Around Umbilicus.
- Thigh
- Arm - Deltoid.
- Buttocks.

When to change: 2-3 Injections.

Complications: Swelling at Injected Site
Infection.
Lipodystrophy.

Types of Insulin:
→ Rapid Acting: Lispro, Aspart, Glulisine
→ Short Acting: Regular
→ Intermediate Acting: NPH.
→ Long Acting: Detemir, Glargine

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Cryo: 8, 13, fibrogen, vWF. 1bag Plt: 10000.
PRBV: 1-1.5gm Hb.

* BLOOD BAG:

- Collection of blood from donor - processing of blood.

Anticoagulants in bag:

1) Citrate Phosphate Dextrose Adenine (CPDA).
2) Citrate Phosphate Dextrose Solution.
3) Saline Adenine Glucose Mannitol Soln (SAGM)

Indications:

1) Acute Blood loss.
2) Severe Anemia due to Lymphoma, Defeciences, Chronic Diseases.
3) Platelets Concentrates → Qf no bleeding >10,000. minor: >20,000. Minor procedure: >50k. CNS, eye surgery: >100.
4) Aplastic Anemia.

FFPs: - Warfarin Toxicity 15ml/kg. - Factor Def.
- Massive Blood Tx.
- TTP.

Screening: Hep B, C, HIV, Syphilis, ABO, RHD.

* Complications:

- Acute hemolytic Rea
- Febrile reaction.
- Allergic - Urticaria, Anaphylaxis.
- Volume Overload.
- Post Tx Purpura.
- Graft Vs Host -
- Hypotension.
- Iron Overload.

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CVP:

Indications: ① CVP monitoring in ill pts to quantify fluid balance.

② IV Abx long term ③ long term Parental Nutrition.

④ Drugs – cause phlebitis in peripheral veins:
- $CaCl_2$ - Chemo - KCl - Arrhiadarone
- Vasopressors (Epinephrine, Dopa).

⑤ Plasmapheresis

⑥ HDx

⑦ Frequent Blood Draws / ⅣV access.

⑧ Need for ⅣV where peripheral access not possible.

Contraindications:

Relative: Inexperienced.
- Local Inf.
- Distorted Anatomy
- Coagulopathy
- Previous Radiation Therapy

Absolute:
- Pt. Refusal.
- Infection at site
- SVC. (except femoral)
- Anatomical Variance

Complications:
- Pneumothorax.
- Infections.
- Thrombosis.
- Hematoma.
- Air Embolism
- Misplacement.

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"PEAK FLOW METER"

Uses: - Regular monitor lung function & Response to Rx.
- Determine Severity of Asthma Attack.
- Assess Response to Rx during attack.
- BRonchial Asthma, COPD.

Complications: (1) Deep breaths - cause feel dizzy, light-headed or SOB.
(2) May trigger Cough/sneezing.

Factors Affecting Accuracy: 1) Coughing during procedure
2) Dirty Meter
3) Poor seal.
4) Bronchodilator use.
5) Different brands PFM (measurements vary)

Normal adult peak flow: 400-700 L/min
Asthma: 200-400 L/min

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* "Fundoscope"

Parts: Coaxial optical system,
Aperture selection dial.
Triple Geared Ophthalmoscope.
Opacity setting, Lens Selection Disc.

Indications: See fundus & retina in:
- Retinal vascular diseases.
- Glaucoma. - ↑ICP.
- DM - HTN - MS - Optic Atrophy
- Macular degeneration. - TB - Toxo.

Looking for: Red Reflex.
Optic Disc.
Blood vessels.
Macula.

* Complications:
(c Dilating or anesthetic eye drops):
- Brief episodes of nausea, vomiting, Dry mouth, Dizziness.
- Allergic Reaction. - ↑ in pressure in eyeball (closed-angle Glaucoma).

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"Pleural Biopsy Needle"

(Abrams's Pleural Biopsy Needle).

- Outer part ē cutting grove.
- Cutting Trocar - Solid Stylet } Parts.

Indications:

- Malignant Pleural effusion.
- Tuberculous Pleural effusion.
- P.E of Unknown Etiology.
- Wegeners. - Mesothelioma.
- Pleural thickening.

CI:

- Bleeding Diso
- ↑ INR, ↓ Plt.
- Uremia
- Empyema.
- local Infx.

Complications:

- Injury to Neurovascular Bundle.
- Vasovagal attack (fear/pain) Pleural shock.
- APE.
- Empyema.
- Pneumothorax (Hydropneumo).
- Collapse of lung.

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⇒ "LIVER BIOPSY Needle"

Parts: Cannular, Trocar, Split Needle.
Types: Vim silverman, Menghini, Trucat.

* Indications:
  - CLD (Cirrhosis, Chronic Hep)
  - SOL (HCC, Sec. Mets)
  - Metabolic (Haemachromatosis) (Wilsons)
  - Infiltrative (Lymphoma) (Sarcoidosis)
  - Amyloidosis
  - Storage (Glycogen St. Diseases)

* Contraindications:
  - Bleeding Disorder.
  - Hydatid Cyst.
  - Extrahepatic Cholestasis.
  - Severe Jaundice
  - Hepatic Encepth.

* Complications:
  - Bleeding
  - Shock.
  - Secondary Infection.
  - Injury to Colon & Other Viscera.
  - Pleurisy, Pneumothorax.
  - Biliary Peritonitis
  - Precipitate Hepatic Encepth.
  - Intrahepatic AV fistula.

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* AE OF ASTHMA :

Triggers: - Viral Infection (Most Common).
- Moulds - Pollens - Air pollution

History - Usual & Recent Rx, previous acute episodes, their severity, best PEF, ICU admission.

DDx: AE of COPD, PE, Anaphylaxis, APE, upper RT Obstruction,

presentation: Acute breathlessness, Wheezes.

Life threatening: → PEF < 33% predicted.
→ SaO_2 < 92, paO_2 < 60.
→ ↑ $PaCO_2$ → Impending failure
→ Silent chest (Absent of wheezes).
→ Feeble Resp. efforts.
→ Brady or Arrhythmias.
→ Cyanosis, Hypotension.
→ Confusion, Coma.

Severe Attack: - pulse > 110.
- PEF: 33 - 50%.
- RR > 25.
- Unable to complete Sentence in one breath.

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Inv: PEF, ABGs, CxR (Pneumo/Duf/Attack), CBC, UCEs.

Rx:

→ Oxygen - High conc, humidified SaO_2 >92.

→ Bronchodilators: SABA → 1st line.

Route: MDI 4-8 puffs OR.

Nebulizer 2.5-5mg every 20min,

→ Systemic Steroids - PO (0.5mg - 1mg/kg) or IV if impending Resp. failure.

If PEF remains < 75%, repeat Salbutamol, Ipratropium.

Severe Asthma: Ipratropium - MDI or Nebs.

IV $MgSO_4$ → Bronchodilation (PEF<30)

Still not Improving: Intubation.

(Manage in ICU)

→ Coma, Confusion, Exhaustion, Drowsiness, Resp. arrest,

ABGs deterioration: PaO_2 <60.

$PaCO_2$ >45.

Resp. Acidosis

If PEF > 75 ē in 1hrs → D/C - Symptoms Improved

If PEF > 40-69 in 1hr → ward Admission.

If PEF <40 → ICU.

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Pulmonary Embolism

Source: Lower extremity DVT (Most common).

Risk factors: - Protein C or S Deficiency.
- APLA - OCPs - HRT.
- HIT - SERM - Malignancy
- Surgery - Immobility.

Features: SOB, chest pain, Cough, Hemoptysis, Syncope (Large PE).

Signs: Tachypnea, ↑HR, Gallop Rhythm - S4, ↑JVP, Loud P2. RH, Pleural Rub, ↓B. Sounds.

Inv: CXR, ECG, ABGIS (Resp. Alkalosis, ↑A-a gradient)
↳ Westermark/Hampton Sign/Atelectasis.
Lower Extremity Doppler u/s.
CT - Angio, Pulm. Angio, D-Dimers

ECG: RAD, RBBB, Sinus Tachy, $S_1Q_3T_3$.

Rx: Oxygen if hypoxic (10-15L/min).
Morphine 5-10mg i antiemetic if pain
↓
I/V access,
Start LMWH → Don't wait for studies if clinical suspicion ↑.

IVC filter
→ CI to anticoag
→ Massive or recurrent hemorrhage on anticoag. VTE despite anticoag

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APTT → UFH → 80 u/kg stat then Infusion @ 18u/kg/hr or 1500 u/hr.
Monitoring

- Enoxaparin 1mg/kg S/C x twice daily.
- Long term anticoagulation ē DOAC or warfarin (Cont. till INR >2), for atleast 24hrs.

↓

If ↓ BP - start fluids bolus.

↓

Hemodyn. Stable.

↓

↓ BP - start vasopressors. eg Dobutamine or Norad. → systolic >90

↓

Initiate long term anticoagulation.

Hemodyn. Unstable.

↓

Thrombolysis.
- Agents: SK, tPA.
S.E: IC bleed.

↓

long term Antico.

Duration:

→ 3 Months: (1st DVT + VTE - Reversible Risk factor) — Options: Warfarin (INR: 2-3) / Xeopt- (Rivaroxaban 20mg).

→ ≥ 3 Months: 1st Unprovoked VTE. Males, ↑ DDimers. — (15mg x BD (3weeks) then 20mg OD)

→ Lifetime: 2nd VTE.

→ Cancer → LMWH → 6 Months. Switch to Warfarin indefinitely.

SK dose: (30min) loading. 250000 U then 100000 U over 12-24 hrs

* "DIABETIC KETOACIDOSIS"

Δ: • Inc. Anionic Gap M. Acidosis < HCO_3 ≤15 mmol/L. pH < 7.3
• Hyperglycemia: > 200mg/dl - 11 mmol/L or known DM.
• Hyperketonemia > 3mmol/L (54mg/dl). or ketonuria (2+ on Dipsth) ucc.

Precipitants: Infection, Insulin Def, Iatrogenic, Ischemia, Intoxication.

Inv: Blood Glucose (Capillary & lab).
Serum + Urine ketones (MSU), Blood c/s.
UCEs - BUN: Cr ratio, K^+, Na^+, HCO_3.
ABGs, CBC (TLC), ECG, CXR.

Rx: ABC approach, 2 large bore Cannula/CVC.

Fluids: Start fluid (0.9% Saline)

10-14ml/kg/hr
1L in 1hr,
1L in 2hrs.
1L in 2hrs.
1L in 4hrs.
1L in 4hrs
1L in 8hrs

Typical fluid Deficit is 100ml/kg
So an average:
70kg Man: 7L.
If systolic BP < 90 → give 500ml Bolus.

Bicarb may ↑ risk of Cerebral Edema not recommended.

Insulin Inf: 50units to 50ml 0.9% saline. @ 0.1 unit/kg/hr. then Inf. at 0.1 unit/kg/hr.
Cont. e⁻ long acting Insulin.

Targets: Ketones ↓ 0.5 mmol/L/hr. ↑ HCO_3 of 3mmol/L/hr. ↓ Glucose

Start e⁻ LMWH in all pts.

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July 2017

Mon	Tue	Wed	Thu	Fri	Sat	Sun
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

A new month, a new perspective

Check BSR & Ketones 1Hr'ly, Pass foleys.
VBGs - 2hr - 4hrs - 8hrs - 12hrs - 24hrs.
I/O → aim of UOP: 0.5ml/kg/hr.
Drowsy/Vomit → Pass N/G.
Glucose < 14 → start 10% Glucose @ 125ml/hr to prevent hypo.
Kt: > 5.5 → Nil
3.5-5.5 → 40mmol/L of fluids } Don't add Kt to 1st Bag
< 3.5 → ICU help.
Complications: Cerebral Edema, Asp. Pneumonia, ↓K, ↓Mg, ↓PO4 Thrombo emb.

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① FOLATE DEFICIENCY ANEMIA:

Source: Green veges, Animal proteins.

Cause of Def: 1) ↓ Intake < Malnourished. Goat Milk (No folate)
2) ↑ Demand < Chronic Hemolytic Anemia, Pregnancy
3) Malignancy
4) Dialysis
5) Malabsorption < Celiac, Psoriasis
6) Drugs: 5FU, MTx, Phenytoin, TMP-SMX.

Labs:
- ↓ Serum Folate
- ↓ RBC folate → Best Indicator for stores
- ⇑ Homocysteine.
- Normal Urine Methyl malonic acid (↑ in Vit B12 Anemia).
- ↓ Retic count.
- ↑ LDH, Indirect Bilirubin Levels.

Rx: Oral folic acid 5mg daily (3 weeks) followed by Maintenance 5mg x 1 weekly.

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(2) Approach to Bloody Diarrhea:

Hx: - No., Amount, Mixed or separate, before passing stool or after defecation. Something coming out of Anus? Wt loss? A/S of Tenesmus or Abd. pain.

DDs:

R/O PUD.
? Relation of food intake.
Drug Induced
- Antiplatelet / Anticoagulant.

R/O CLD
? Jaundice
? Ascites
? ALOC
? Alcohol, Hep.
? Blood Tx
? Hx of Endo or colon.

R/O IBD
? Wt. loss
? Fever
? Mouth sores
? Desmg Manifest.

R/O Malignancy
? Wt loss
? Anorexia
? Previous Hx.

Radiation Colitis
Hx.

R/O Ischemic Colitis
? Hypercholesterolemia
? DM, HTN.
? H/O SVT/Arrhythmia/Afib.
? Bloating
? fever.

Bacterial Inf.
- E. Coli
- Salmonella.
- Shigella.
- Campylobacter
- Yersinia

R/O Coagulation Disorders.
? Bleeding from other sites.

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Inv:
- CBC < Hb level, Platelets, TLC
- UCEs < AKF: ↓ Na, ↑ K, ↓ HCO_3.
- Stool D/R, Stool C/S.
- PT/INR.
- Albumin, LFTs } CLD.
- Viral Serologies.
- FLPs.
- ESR, CRP → IBD
- pANCA / cANCA.
- Abd. CXR → IBD features.
- Colonoscopy ± Endo.

Rx: Treat the cause.
* U/C → Oral ASA + local steroid ± Oral Steroids
* Shigella → Nutrition, zinc, Abx (cipro, Azithro).
* E. Coli → Supportive. Dont give Abx (↑ risk of HUS)
* Salmonella → Supportive. Severe Disease → Abx.
* Campylo → Invasive Cases → Abx – Macrolide, Doxy
* Yersinia → Aminoglycosides, co-trimaxole.
* Ischemic Colitis → Abx + fluids ± Surgery.
* CLD → CLD Management.

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③ "SEPSIS":

Life threatening Organ Dysfunction caused by a dysregulated host response, to Infection.

Septic Shock: sepsis + { Lactate > 2 e⁻ fluid Resuscitation / Vasopressors need to maintain MAP ≥ 65.

→ Moderate to High Risk

* Altered Mental Status Report or acute deterioration in functional status.
* Resp Rate 21-24.
* SBP: 91-100mmHg.
* HR 91-130 / Arrhythmia
* UOP: Nil for 12-18hrs / 0.5-1.0ml/kg/hr.
* Local Signs of Infection ↑ Redness, Swelling, Discharge.
* Rigors / Temp < 36°C
* Impaired Immunity.
* Recent Surgery / Trauma / procedure.

High Risk.

Objective evidence of Altered status

* RR > 24.
* SBP < 90 or >40 from baseline
* HR > 130.
* UOP: Nil for 18hrs < 0.5ml/kg/hr.
* Mottled, ashen or cyanosed skin. Non Blanching Rash.

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Atleast one high risk OR
Atleast two moderate
c AKI or lactate >2 → HIGH RISK.

Labs: CBC, UCEs, Cultures, Serial ABGIS, VBGIS for lactate, CRP, Clotting profile, Pus c/s - wound titles → cultures, CXR.

Atleast One Moderate to high risk → Moderate to High Risk.

Rx:

Mainstay → Antibiotics (Broad spectrum c in 1hr).

Start Acyclovir → Suspected Meningitis

0.9 NS → Fluids → 30ml/kg → over 30-60min (1-2L) c
Boluses of Crystalloids.

Pass fleets for I/O

→ Oxygen → SaO_2 94-98%

→ Critical care R/V → Possible Inotropes / Ventilation / HDx.
(SBP < 90, RR > 30, ↓GCS, ↑ Lactate).

CVP Measurement ↓ Hypovolemia

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(4) "MULTIPLE MYELOMA":

→ Plasma cell Neoplasm (B-cells).
→ Most common Monoclonal Gammopathy.
→ Types of Monoclonal Ig or paraproteins: (Symptomatic)
IgG: 55%.
IgA: 25%.
Light chainonly: 22%.

Features:

* **Skeletal**
- Lytic bone Tumors
- Bone pain, ↑Ca.
- Pathological fractures

* **Hematological**
- Anemia
- Rouleaux form.
- ↑↑ ESR >100
- Coagulopathy, ↑BT.

* **Renal**
- BJ proteins
- Nephro-calcinosis
- Renal failure.

* **Amyloidosis**
- Secretion of Ig light chains
↓
Nephrotic Syndrome

* **Infections**
- Most common cause of death in MM.
- ↓ Normal Ig.
- Strept, S. Aureus, E. Coli.

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Dx:

→ Protein Electrophoresis (SPEP) : < Serum: Ig > 3
                                  < Urine: BJ protein > 6.
→ ↑ ESR, CRP
→ ↓ Anionic Gap.
→ Beta2 Microglobulin. > Disease Severity (useful in prognosis)
→ ↑ LDH.
→ ↑↑ Blood BUN : Cre Ratio.
→ ↑ Total protein, (↓↓) Albumin.

→ Bone Marrow Bx:
- (↑ plasma cells > 10%.) (Intracytop).
- Russel Bodies. (PAS +ve Inclusions).
- Dutcher Bodies (PAS +ve Intranuclear).

- Skeletal Survey → lytic lesions.

Criteria:
2 out of 3:
1) Serum and/or Urinary paraproteins.
2) ↑ Malignant plasma cells on BM.
3) Skeletal lytic lesions.

Rx: High Dose Chemo
- Age < 70: < HSCT.
- Age ≥ 70: < Melphalan + Pred + Thalidomide OR lenalidomid

Adjuvant:
Bone → Bisphophonates.
Anemia → EPO, Tx.
Infections → Abx.
Renal → Hydration.
ARF → HDx.

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(5) EPILEPSY:

- Recurrent, Unprovoked seizures due to a chronic underlying process.
- Inhibitory Neurotransmitters (GABA) prevent seizures
- Excitatory NTs (Ach, Glutamate) provoke seiz.

Causes: V I T A M I N G

- V: Vascular → Stroke, AVM
- I: Infection
- T: Trauma
- A: Auto Immune
- M: Metabolic → ↓Na, ↓Glucose, ↓Ca, Hypoxia
- I: Idiopathic
- N: Neoplasm
- G: Genetic, Developmental

Triggers:
- Sleep Deprived.
- Alcohol.
- Flickering lights (TV, Screens)
- Injections
- Loud Noises, Music, Hot baths.

Inv: - UCES, BSR, LFTs, Ca, Mg, EEG, CXR, ESR, CRP, HIV, CSF, MRI, CT Scan.

Indications of Brain Imaging in Epilepsy:

1) Epilepsy after age of 20yrs.
2) Focal features clinically.
3) EEG → Focal seizure source.
4) Control of seizures → difficult-
   - Deteriorating

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Rx:

- Partial seizures & partial ē 2° Generalization → 1st line: Carbamazepine
  - 2nd: Lamotrigine. Sodium Valproate
- Primary GTCS → Sodium Valproate. then Lamotrigine/Topiramate.
- Absence → Ethosuximide. then Sodium Valproate.
- Myoclonic → Sodium Valproate. then Clonazepam.

* Start ē one first line drug at low dose, gradually ↑ dose. Make sure Compliance.
  ↓
  2nd 1st line drug — gradually withdraw 1st.
  ↓
  2nd line drug + 1st line at Max dose.
  ↓
  Alternative 2nd line → Reconsider Δ.

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⑥ MALARIA:

	Incubation:	fever
Plasmodium falciparum:	8-25 days	No pattern
" Vivax:	8-25 days	Benign Tertian (48hrs)
Ovale:	8-25 days	Benign Tertian (48hrs)
Malariae: (GN & Nephrotic)	15-30 days	→ Quartan (72hrs)

Features:

Falciparum → Malaise, Headache, Vomiting, Jaundice, Hepatosplenomegaly, Anemia, Thrombocytopenia

Severe:
- Cerebral.
↓ Consciousness
Confusions,
Convulsions.
↳ Coma / Death.

Others: Severe Anemia, DIC, ARDS, Hypoglycemia, M. Acidosis, Gastro

Black Water fever:
- passage of Dark urine.
- Hemolysis.

Δ: ① Giemsa stained blood films → Thick: / Blood stages; Thin: Species, parasitic load.

② ICT - Rapid stick test: Optimal. Parasight F.

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Treatment:

1) Vivax
2) Ovale
3) Malariae

→ Primaquine. → 0.5mg/kg for 14 days.
→ 600mg Chloroquine → 300mg 6hrs / 300mg 24hrs - 300mg 24hrs later

Falciparum:

Uncomplicated:

Artemisinin based chemo OR Quinine

↓ Co artemether (Artemether + Lumefantrine) 4 tab - 0, 8, 24, 36, 48, 60 hrs (3 days)

↓ Quinine 600mg 3 times daily for 7 days + Doxy OR Clinda OR Atovaquone.

Complicated:

½ artesunate 2.4mg/kg → 0, 12, 24 hrs. Then once daily for 7 days.

↓ Switch to Oral 2mg/kg. (17-18 mg/kg)

OR

Quinine. (20mg/kg) in 4hrs

Resistance:

- Mefloquine or
- Doxy or Malarone → High
- Chloroquine → Low Resistance

or Proguanil.

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(7) SLE:

- Most Common Connective Tissue Disease.
- Features:

MSK:	Skin	Cardiopulmo	Neuro	Renal
→ >90% joints	→ Photosens.	- Pericarditis	- Seizures	- Lupus
→ Arthritis → Boutonniere Deformation.	→ Oral Ulcers	- Myocarditis	- Epilepsy	Nephritis
→ Raynaud's	→ Malar Rash.	- Libman Sacks	- Neuropathy	
→ Jacoud's Arthropathy	→ Discoid Rash.	- Pleurisy, PE, pneumonitis	- Stroke	

⇒ ESR ↑↑, CRP → (MF)

Heam → Anemia, pancytopenias

⇒ Lupus Nephritis → I - Minimal Mesangial GN; II - Mesangial proliferative; III - focal proliferative; IV - Diffuse proliferati; V - Membranous; VI - Advanced Sclerotic

Inv: CBC, ESR, UCEs, Urine D/R, C3, C4, ANA, Anti DS DNA, Anti Smith Antibodies

Others: APLA, Anti RNP, Anti La & Ro.

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SLICC Criteria for SLE:

(4) or more / 11.
Atleast one Clinical + one Immunologic
OR.
Lupus Nephritis as sole + ANA or Anti DS DNA.

Clinical:
- (Skin): 1) Malar Rash (Acute) / Discoid Rash (Chronic); 2) Oral Ulcers; 3) Alopecia / Photosens
- MSK → 5) Non-Erosive Arthritis
- Cardio pulmo → 6) Serositis
- 7) Renal proteinuria or RBC casts.
- Neurologic → 8) Seizures or Psychosis
- Heam: 9) Hemolytic Anemia or Leucopenia or Lymphopenia or ↓ Plts.

Immunological:
- Serology: 10) ANA +ve
- 11) Anti DS DNA, +ve / Anti Sm / Anti PLA.

Rx:
- Avoid sun exposure
- Analgesics > skin & joints
- NSAIDs
- HCQ → skin, joint.
- Belimumab < Joints, skin, Serositis
- Acute flares: High dose steroids
- Lupus: steroids + Mycophenolate. ½ steroids + ½ cyclophosphan.
- Maintenance: Oral Steroids + Immuno suppressants.

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USA, India, Brazil. Ref - 89 - 460, 672 9474.

Incubation period: On average 5-6 days.
Can as long as 14 days.

Transmission: Direct, Indirect or close contact (Highly Infective) (Infected Secretions).
↳ Saliva, Resp. Droplets.
→ Cough / Sneeze / talk / sings

* Most common Symptoms:
→ fever, Dry Cough, Tiredness.

- Less Common:
* Aches, pains, Sorethroat, Diarrhea, Conjunctivitis, Headache, loss of Smell or taste, rash on skin.

* Serious Symptoms:
SOB, Chest pain, Loss of Speech or Movement

Risk factors for Disease:
→ Adults > 65 or older, living in Nursing Homes
→ Underlying disease - COPD, Asthma, DM, Obesity, Liver or heart issue, CKD, Immunocompromised.

Δ: CBC, Metabolic profile, CXR, Inflammatory Markers → PCT, Ferritin, CRP, IL-6,

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D-Dimers, LDH, Covid 19 PCR (Naso or Oropharyngeal). Covid 19 Antibodies - IgG, IgM.

Complications: ARDS → ARF (Resp. failure)
Acute liver Injury,
Acute Cardiac Insult,
AKI, Ceptic Shock, DIC,
Venous Thromboembolism.
(Hypoxia & Inflammation leads to ↑ Inf. cytokines & coag. pathway activation)

Virchow's Triad:
Endothelial Injury
Stasis
Hypercoagulable state.

Preventation & Treatment:
- Washing hands - 20sec.
- Avoid touching face, eyes, nose, mouth.
- Stay atleast 6 feet (2m)
- Use disinfectants on surfaces.
- Avoid Crowding.
- Wear Mask in public places.

Rx:
- Steroids
- Antivirals (Remdesivir).
- Combination of HCQ & Azithromax (Anti-Inf)
- Tocilizumab (Novel Monoclonal Antibody inhibits IL-6) 4-8mg/kg - 60min I/V Infusion 4 weekly

- Remdesivir: 200mg (loading) then 100mg once daily for 5-10days.
- Undefined Role for Plasma from Recovered patients.

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August 2017

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

A new month, a new perspective

CXR findings in card:

- Ground Glass Opacities to Consolidation in B/L peripheral, middle & Lower zones.
- Pleural Effusion (less Common).
- Bilateral hilar Lymphadenopathy (less Common).
- Bronchovascular Thickening
- Crazy Paving Appearance
- Traction Bronchiectasis.

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⑨ SWINE (H1N1) FLU – / INFLUENZA VIRUS:

H1N1 - Influenza A Virus Subtype H1N1.
Family: Orthomyxoviridae.
Glycoproteine < H - Haemagglutinin.
N - Neuroaminidase.

2009 → Swine flu pandamic
(Direct Contact ē Pigs)
Transmission: Cough / sneeze (Resp. Droplets).
Incubation period: 2-7 days.
Symptoms: Cough, fever, Sorethroat, Stuffy or Runny Nose, Bodyaches, Headache, Chills, fatigue.

Influenza Vaccine:

Inactivated Influenza
OR Influenzative Attenuated (LA)
OR Influenza Recombinant

(Intranasal / IM).
Give 1 dose Annually in b/w 2 7-49 years of age (All above Six Months or older).

* LA should not used in pts ē allergic Hx or Immunocompromised.

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Inv: Nasal Swab for H1N1 (confirmed by PCR) — <5yrs or >65 / Pregnant / Immunocompromised / Comorbids.

Rx: - Bedrest
- Antivirals + Antiallergics (Amantadine)
  - Oseltamivir – 75mg x BD. (Tamiflu) → (5days).
  - Peramivir (Rapivab)
  - Zanamivir – 10mg x BD. (Relenza)

Complications: → Pneumonia
→ Worsening of Asthma & plus Heart Disease.
Reye Syndrome.
→ Neurological signs (Encephalitis)
→ Respiratory failure
→ Sinusitis, otitis Media.

Post Exposure Prophylaxis:

10 days → oseltamivir Tamiflu.
Dose. 75mg x BD.
(Weight dependent Dose).

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(10) Acute Gastroenteritis & ARF & Hypovolumeic Shock:

Diarrhea

- Acute: ≥3 episodes partially formed or watery (<14 days)
- Persistent: Acute lasting for >14 days
- Dysentery: Infectious Bloody Diarrhea.
- Travellers: Starting during or shortly after travel.

Causes

- Viral
- Bacterial
- Parasites.

Diagnosis

CBC, UCES, Stool D/R, Stool C/S, Stool PCR/ Enzyme Immunoassay

Rx:

→ Fluids: 10-15ml/kg Crystalloid (IV)
Target BP: SBP > 90, HR < 100
UOP: > 0.5ml/kg/hr.

→ ORS: 200-400ml after each episode.

→ Abx: In severe Dehydration only.

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→ MDR TB (Resistant to INH, Rif)
↳ Short Duration: 9-12 Months
Long Duration: 18-20 Months.

Intensive phase:
4-6 Months.
④ 2nd line Drugs.
↳ Fluoroquinolones.
- Injectable Kanamycin/Capreomycin.
- Ethionamide / PAS.
- Pyrazinamide/Ethan.

Continuation phase.
5 Months
- Bedaquiline
- Levofloxacin.
- Ethambutol
- Clofazimine
- PZA.

- XDR TB (Resistant to INH, Rifampicin, floroquinolest ! in 2nd line Drugs).

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